

REMARKS

In the non-final Office Action, the Examiner rejected claims 1-4, 11, 13, 15, 18-20, and 24-26 under 35 U.S.C. § 103(a) as unpatentable over Prasad (U.S. Patent No. 6,049,542) in view of Lyon et al. (U.S. Patent No. 5,920,705); rejected claims 5, 14, and 16 under 35 U.S.C. § 103(a) as unpatentable over Prasad in view of Lyon et al. and Bass et al. (U.S. Patent No. 6,052,375); rejected claims 6-9 under 35 U.S.C. § 103(a) as unpatentable over Prasad in view of Lyon et al. and Fan et al. (U.S. Patent No. 6,408,005); rejected claim 22 under 35 U.S.C. § 103(a) as unpatentable over Prasad in view of Yin (U.S. Patent No. 6,219,728); and rejected claim 23 under 35 U.S.C. § 103(a) as unpatentable over Prasad in view of Rathnavelu (U.S. Patent No. 5,751,709). The Examiner objected to claims 10, 12, and 17 as dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the features of the base claim and any intervening claims. The Examiner allowed claim 21.

Applicants appreciate the Examiner's identification of allowable subject matter, but respectfully traverse the Examiner's rejections under 35 U.S.C. § 103. Claims 1-26 remain pending.

In paragraph 2 of the Office Action, the Examiner rejected claims 1-4, 11, 13, 15, 18-20, and 24-26 under 35 U.S.C. § 103(a) as unpatentable over Prasad in view of Lyon et al. Applicants respectfully traverse the rejection.

Claim 1 recites a combination of features of an interconnect network for operation within a communication node. The interconnect network includes a plurality of local line card modules, a selectable number of local interconnect modules, and an expanded interconnect module. The local line card modules are configured to process information received at a plurality of speeds

and formatted according to a plurality of protocols. The selectable number of local interconnect modules are connected to the local line card modules and located proximate to each other. Each of the local interconnect modules includes local transfer elements for transferring information between a plurality of local I/O channels and for transferring information between the plurality of local I/O channels and a plurality of non-local I/O channels. The expanded interconnect module is located proximate to the local interconnect modules and includes coupling means for electrically coupling to the non-local I/O channels, and expanded transfer elements for transferring information between the local interconnect modules.

Neither Prasad nor Lyon et al., whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 1. For example, neither Prasad nor Lyon et al. discloses or suggests an expanded interconnect module that is located proximate to the local interconnect modules and includes coupling means for electrically coupling to the non-local I/O channels and expanded transfer elements for transferring information between the local interconnect modules, as recited in claim 1.

The Examiner identified switch elements 111 and 112 as allegedly equivalent to the local line card modules recited in claim 1; switch elements 121 and 122 and replacement core stage 301 as allegedly equivalent to the local interconnect modules recited in claim 1; and replacement core stage 301 as allegedly equivalent to the expanded interconnect module recited in claim 1 (Office Action, page 3). Applicants respectfully disagree.

Applicants note that the Examiner identified replacement core stage 301 as allegedly equivalent to both the local interconnect modules and the expanded interconnect module (Office Action, page 2). Applicants submit that this is not a reasonable position. Claim 1 recites that the

expanded interconnect module is "located proximate to said local interconnect modules" and includes "expanded transfer elements for transferring information between said local interconnect modules." The Examiner has not explained how it is possible for Prasad's replacement core stage 301 to be located proximate itself and transfer information between itself when replacement core stage 301 is both the local interconnect modules and the expanded interconnect module. Without such an explanation, the Examiner has not established a prima facie case of obviousness for the position that replacement core stage 301 is both the local interconnect modules and the expanded interconnect module.

Applicants submit that the Examiner's position that switch elements 121-122 are local interconnect modules and replacement core stage 301 is an expanded interconnect module is also defective. Claim 1 recites that the expanded interconnect module includes "expanded transfer elements for transferring information between said local interconnect modules." Nowhere does Prasad disclose or suggest that replacement core stage 301 transfers information between switch elements 121-122. Instead, Prasad discloses something quite different. Prasad discloses that replacement core stage 301 acts as a replacement for switch elements 121-122 to receive inputs from switch elements 111-112 and provide outputs to switch elements 131-132 (col. 7, lines 10-22; col. 8, line 51 - col. 9, line 15). The disclosure of Lyon et al. provides nothing to cure these deficiencies in the disclosure of Prasad.

For at least these reasons, Applicants submit that claim 1 is patentable over Prasad and Lyon et al., whether taken alone or in any reasonable combination. Claims 2-4, 11, 13, 15, 18, and 19 depend from claim 1 and are, therefore, patentable over Prasad and Lyon et al. for at least the reasons given with regard to claim 1.

Further, claim 11 recites redundancy generating means for generating an alternative version of information being transferred out of the interconnect network through the local I/O channels. Neither Prasad nor Lyon et al., whether taken alone or in any reasonable combination, discloses or suggests this feature.

The Examiner admitted that Prasad does not disclose this feature, but alleged that it is known in the art of multicasting and broadcasting that received information is duplicated for transferring to multiple destinations (Office Action, pages 4-5). Regardless of the accuracy of the Examiner's allegation that duplicating received information is known in the art, claim 11 does not simply recite duplicating information, but instead recites "generating an alternative version of information." The Examiner has not addressed this feature and, therefore, has not established a *prima facie* case of obviousness with regard to claim 11.

For at least this additional reason, Applicants submit that claim 11 is patentable over Prasad and Lyon et al., whether taken alone or in any reasonable combination.

Claim 19 recites that the local and the expanded transfer elements each includes mode control means for selecting whether the transfer element is to be employed in one of the local interconnect modules or in the expanded interconnect module. Neither Prasad nor Lyon et al., whether taken alone or in any reasonable combination, discloses or suggests mode control means.

The Examiner alleged that Prasad discloses mode control means and cited Fig. 5 of Prasad for support (Office Action, page 5). Applicants disagree.

At column 8, line 51 - column 9, line 15, Prasad describes Fig. 5 as:

FIG. 5 is a flow diagram 500 illustrating a process for upgrading the exemplary scalable switch fabric architecture 300 shown in FIGS. 3 and 4 according to one embodiment of the present invention. It is assumed that the exemplary scalable switch fabric architecture

300 is either one of a primary or a standby switch fabric.

Initially, the automatic switch-over function for diverting data traffic to the standby fabric upon the occurrence of a default in the primary fabric is disabled (process step 501). Next, a replacement core stage 301 is inserted in parallel with the original (i.e., second) core stage in the original standby fabric (process step 502). The new call acceptance function and the existing call clearing function are disabled in the standby fabric (process step 503).

Next, the new three-switching-stage sub-fabric is initialized (process step 504). Once data cells have been transmitted from the original core stage of the primary fabric and there are no outstanding call setup or clear transactions, data traffic is switched over to the upgraded standby fabric (process step 505). This puts the original low-capacity primary fabric in the stand-by mode and makes the new upgraded standby fabric the primary fabric. New call acceptance and existing call clearance functions are enabled and data cells may now enter the standby fabric (process step 506).

Next, a second replacement core stage 301 is inserted in parallel with the original (i.e., second) core stage in the primary fabric (process step 507). The automatic switch-over function for diverting data traffic to the standby fabric upon default in the primary fabric is then re-enabled (process step 508).

Nowhere in this section, or elsewhere, does Prasad disclose or suggest mode control means for selecting whether a transfer element is to be employed in a switch element 121-122 (which the Examiner alleged was equivalent to a local interconnect module) or replacement core stage 301 (which the Examiner alleged was equivalent to an expanded interconnect module). The disclosure of Lyon et al. provides nothing to cure this deficiency in the disclosure of Prasad.

For at least this additional reason, Applicants submit that claim 19 is patentable over Prasad and Lyon et al., whether taken alone or in any reasonable combination.

Independent claims 20 and 24-26 recite features similar to features recited in claim 1. Claims 20 and 24-26 are, therefore, patentable over Prasad and Lyon et al., whether taken alone or in any reasonable combination, for reasons similar to reasons given with regard to claim 1.

Further, claim 20 recites that the selected number of local interconnects can be varied while the expanded interconnect is transferring information. Neither Prasad nor Lyon et al.

discloses or suggests this feature. The Examiner equated switch elements 121-122 and replacement core stage 301 as allegedly equivalent to the local interconnects recited in claim 20 and replacement core stage 301 as allegedly equivalent to the expanded interconnect recited in claim 20 (Office Action, page 3). Nowhere, however, does Prasad disclose or suggest that either switch elements 121-122 or replacement core stage 301 can be varied while replacement core stage 301 is transferring information. If the Examiner believes differently, Applicants invite the Examiner to identify the portion of Prasad that discloses or suggests this feature.

For at least this additional reason, claim 20 is patentable over Prasad and Lyon et al., whether taken alone or in any reasonable combination.

In paragraph 3 of the Office Action, the Examiner rejected claims 5, 14, and 16 under 35 U.S.C. § 103(a) as allegedly unpatentable over Prasad in view of Lyon et al. and Bass et al. Applicants respectfully traverse the rejection.

Claims 5, 14, and 16 depend from claim 1. Without acquiescing in the Examiner's rejection, Applicants submit that the disclosure of Bass et al. does not cure the deficiencies in the disclosures of Prasad and Lyon et al. identified above with regard to claim 1. Therefore, claims 5, 14, and 16 are patentable over Prasad, Lyon et al., and Bass et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 1.

In paragraph 4 of the Office Action, the Examiner rejected claims 6-9 under 35 U.S.C. § 103(a) as allegedly unpatentable over Prasad in view of Lyon et al. and Fan et al. Applicants respectfully traverse the rejection.

Claims 6-9 depend from claim 1. Without acquiescing in the Examiner's rejection, Applicants submit that the disclosure of Fan et al. does not cure the deficiencies in the

disclosures of Prasad and Lyon et al. identified above with regard to claim 1. Therefore, claims 6-9 are patentable over Prasad, Lyon et al., and Fan et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 1.

In paragraph 5 of the Office Action, the Examiner rejected claim 22 under 35 U.S.C. § 103(a) as allegedly unpatentable over Prasad in view of Yin. Applicants respectfully traverse the rejection.

Independent claim 22 recites a combination of features of an interconnect network for operation within a communication node. The network includes a selectable number of local interconnect modules, an expanded interconnect module, and quality of service means. Each of the selectable number of local interconnect modules includes local transfer elements for transferring information between a plurality of local I/O channels and for transferring information between the plurality of local I/O channels and a plurality of non-local I/O channels. The expanded interconnect module includes coupling means for electrically coupling to the non-local I/O channels and expanded transfer elements for transferring information between the local interconnect modules. The quality of service means differentiates between information coupled into the local I/O channels based on an associated priority of the information, and for indicating unavailability for receiving information having a particular associated priority on one or more of the local I/O channels.

Neither Prasad nor Yin, whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 22. For example, neither Prasad nor Yin discloses or suggests an expanded interconnect module that includes coupling means for

electrically coupling to the non-local I/O channels and expanded transfer elements for transferring information between the local interconnect modules, as recited in claim 22.

The Examiner identified switch elements 121 and 122 and replacement core stage 301 as allegedly equivalent to the local interconnect modules recited in claim 22, and replacement core stage 301 as allegedly equivalent to the expanded interconnect module recited in claim 22 (Office Action, page 8). Applicants respectfully disagree.

Applicants note that the Examiner identified replacement core stage 301 as allegedly equivalent to both the local interconnect modules and the expanded interconnect module (Office Action, page 8). Applicants submit that this is not a reasonable position. Claim 22 recites that the expanded interconnect module includes, for example, "expanded transfer elements for transferring information between said local interconnect modules." The Examiner has not explained how it is possible for Prasad's replacement core stage 301 to transfer information between itself when replacement core stage 301 is both the local interconnect modules and the expanded interconnect module. Without such an explanation, the Examiner has not established a *prima facie* case of obviousness for the position that replacement core stage 301 is both the local interconnect modules and the expanded interconnect module.

Applicants submit that the Examiner's position that switch elements 121-122 are local interconnect modules and replacement core stage 301 is an expanded interconnect module is also defective. Claim 22 recites that the expanded interconnect module includes "expanded transfer elements for transferring information between said local interconnect modules." Nowhere does Prasad disclose or suggest that replacement core stage 301 transfers information between switch elements 121-122. Instead, Prasad discloses something quite different. Prasad discloses that

replacement core stage 301 acts as a replacement for switch elements 121-122 to receive inputs from switch elements 111-112 and provide outputs to switch elements 131-132 (col. 7, lines 10-22; col. 8, line 51 - col. 9, line 15). The disclosure of Yin provides nothing to cure these deficiencies in the disclosure of Prasad.

For at least these reasons, Applicants submit that claim 22 is patentable over Prasad and Yin, whether taken alone or in any reasonable combination.

In paragraph 6 of the Office Action, the Examiner rejected claim 23 under 35 U.S.C. § 103(a) as allegedly unpatentable over Prasad in view of Rathnavelu. Applicants respectfully traverse the rejection.

Independent claim 23 recites a combination of features of an interconnect network for operation within a communication node. The network includes a selectable number of local interconnect modules and at least one expanded interconnect module. Each of the selectable number of local interconnect modules includes local transfer elements for transferring information between a plurality of local I/O channels and for transferring information between the plurality of local I/O channels and a plurality of non-local I/O channels. The at least one expanded interconnect module includes coupling means for electrically coupling to the non-local I/O channels and expanded transfer elements for transferring information between the local interconnect modules. The interconnect network is adapted for transferring information as information cells, and the local and expanded transfer elements further include clumping means for substantially simultaneously transferring a plurality of the information cells.

Neither Prasad nor Rathnavelu, whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 23. For example, neither

Prasad nor Rathnavelu discloses or suggests at least one expanded interconnect module that includes coupling means for electrically coupling to the non-local I/O channels and expanded transfer elements for transferring information between the local interconnect modules, as recited in claim 23.

The Examiner identified switch elements 121 and 122 and replacement core stage 301 as allegedly equivalent to the local interconnect modules recited in claim 23, and replacement core stage 301 as allegedly equivalent to the at least one expanded interconnect module recited in claim 23 (Office Action, page 9). Applicants respectfully disagree.

Applicants note that the Examiner identified replacement core stage 301 as allegedly equivalent to both the local interconnect modules and the at least one expanded interconnect module (Office Action, page 9). Applicants submit that this is not a reasonable position. Claim 22 recites that the at least one expanded interconnect module includes, for example, "expanded transfer elements for transferring information between said local interconnect modules." The Examiner has not explained how it is possible for Prasad's replacement core stage 301 to transfer information between itself when replacement core stage 301 is both the local interconnect modules and the expanded interconnect module. Without such an explanation, the Examiner has not established a *prima facie* case of obviousness for the position that replacement core stage 301 is both the local interconnect modules and the at least one expanded interconnect module.

Applicants submit that the Examiner's position that switch elements 121-122 are local interconnect modules and replacement core stage 301 is an expanded interconnect module is also defective. Claim 23 recites that the at least one expanded interconnect module includes, for example, "expanded transfer elements for transferring information between said local

interconnect modules." Nowhere does Prasad disclose or suggest that replacement core stage 301 transfers information between switch elements 121-122. Instead, Prasad discloses something quite different. Prasad discloses that replacement core stage 301 acts as a replacement for switch elements 121-122 to receive inputs from switch elements 111-112 and provide outputs to switch elements 131-132 (col. 7, lines 10-22; col. 8, line 51 - col. 9, line 15). The disclosure of Rathnavelu provides nothing to cure these deficiencies in the disclosure of Prasad.

For at least these reasons, Applicants submit that claim 23 is patentable over Prasad and Rathnavelu, whether taken alone or in any reasonable combination.

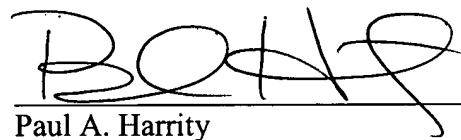
In view of the foregoing remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of pending claims 1-26.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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